End-user searching in a medical school curriculum: an evaluated modular approach

By Pamela S. Bradigan, M.S., J.D.
Head of Reference Department

Carol A. Mularski, M.L.S.
Coordinator of Online Services and User Education

Health Sciences Library
The Ohio State University
376 West Tenth Avenue
Columbus, Ohio 43210–1240

Librarians at the Ohio State University Health Sciences Library developed and taught a four-week elective minimodule on database searching to second-year medical students. The behavioral objectives, design, implementation, and formal evaluation of the program are described. The authors point out the need for a systematic means of assisting all future physicians to develop information retrieval and management skills.

Medical educators increasingly recognize the need to train medical students in information-seeking skills. As the information explosion continues, physicians must become computer literate in order to access information for research and patient care quickly and accurately [1]. The Association of American Medical Colleges (AAMC) Steering Committee on the Evaluation of Medical Information Sciences in Medical Education recommends that "medical informatics should become an integral part of the medical curriculum" [2]. The report indicates that at "a minimum, this means use of bibliographic retrieval systems" [3]. Librarians, who for years have served as intermediaries in the information searching process, are the logical agents to train medical students in this discipline.

In the fall of 1987, several Ohio State University (OSU) College of Medicine faculty members addressed the need to educate medical students to search bibliographic databases. Following negotiations among a curriculum committee, the director of medical education, and the library's director, two librarian-instructors prepared a special minimodule on bibliographic database searching. This article explains how the class was planned, delivered, and formally evaluated.

REVIEW OF THE LITERATURE

Numerous articles about teaching medical students or health professionals to do their own bibliographic database searching have appeared in recent library literature. Sollenberger and Smith pointed out elements essential in teaching a bibliographic database searching course [4]. They stressed instruction in the use of MeSH, as well as in-class, supervised database searching. Poisson also emphasized the value of subject headings [5]. Starr and Renford noted that explosions of MeSH headings, subheadings, and limiting by age are elusive concepts for many end users [6]; however, an emphasis on MeSH is supported by the results of Marshall's study, where the author found that the use of MeSH by end users was related to a more positive attitude toward and an increased implementation level of end-user searching [7].

Librarians, who for years have served as intermediaries in the information searching process, are the logical agents to train medical students in this discipline.

McKibbon et al., like Sollenberger and Smith, emphasized the importance of in-class searching practice [8]. This aspect of end-user instruction was described in detail by Mueller and Foreman [9], who reported on the University of Minnesota Medical School's end-user program. Two librarians taught an elective minicourse consisting of six ninety-minute sessions to third- and fourth-year medical students. The Minnesota course was more broadly based than the OSU module described in this paper, and included sections

on information search strategy, printed indexes, database searching, personal file management, and current awareness tactics. However, the Minnesota instructors' emphasis on class participation, limited lecturing, and hands-on experience were also critical aspects of the OSU course.

The OSU College of Medicine minimodule courses are offered to students as electives, based upon the students' interests or needs.

BACKGROUND AND COURSE DEVELOPMENT

The OSU College of Medicine minimodule courses are offered to students as electives, based on the students' interests or needs. These short courses, which cover a variety of topics, are offered on four consecutive Wednesday afternoons. Each session runs approximately three hours. Students sign up on a first-come, first-served basis, and limits are set on some class sizes. The College of Medicine administers the course registration.

Officials in the College of Medicine introduced the course in database searching as a new program module in the winter quarter of 1988.

The two OSU librarian-instructors began developing the minimodule "Introduction to Medical Database Searching" approximately two months prior to the first session. They spent approximately fifty hours reviewing relevant research, estimating costs for student passwords, and constructing pre- and posttests, handouts, instructor evaluations, and hands-on exercises for the online practice sessions. Many of the search problems used for the tests were taken from the material the National Library of Medicine produced for teaching MEDLINE searching to health professionals [10]. Preparation time would have been considerably longer had the librarians not had prior experience teaching end-user searching.

In order to develop a well-organized course, the instructors first compiled a detailed course outline and description. The limited class time, a total of twelve hours including online time, resulted in the development of only four behavioral objectives for the students:

- Students should be able to define the basic terminology of database searching (e.g., vendors, producers).
- Students should recognize the processes involved in the database communications network.
- Students should be able to formulate effective search strategies using appropriate keywords and MeSH.
- Students should be able to execute searches using Compact Cambridge's MEDLINE on CD-ROM and BRS Colleague protocols.

Once the course description and outline were finalized, the librarians shared the materials with appropriate personnel in the College of Medicine, who used the description to advertise the minimodule and handled the registration of students. Prior to the first class, the librarians received a roster of ten medical students, the class maximum based on course content, classroom size, and equipment availability. A low instructor-to-student ratio was particularly important in order to give individualized attention during hands-on sessions.

The Health Sciences Library staff was eager to participate in the minimodule, even though doing so required extra planning and resources.

IMPACT ON THE LIBRARY

The Health Sciences Library staff was eager to participate in the minimodule, even though doing so required extra planning and resources. An additional part-time librarian was hired to provide the instructors with release time from reference desk duties to devote time to minimodule planning. In addition to the new part-time librarian, staff from all areas of the library assisted the instructors by staffing the Information Services Desk during the actual class period.

Minimodule lectures and search strategy planning were held in the library's classroom. Online time for student practice took place in the microcomputer laboratory on another floor. This division of learning experiences was necessary because the classroom was better organized and equipped for lecturing. In addition, it was necessary to keep the fee for use of the microcomputer laboratory to a minimum. There were no logistical problems in moving from one location to the other. Costs of student passwords, online time, and microcomputer laboratory rental for the minimodule were absorbed by the library.

COURSE CONTENT

In the first minimodule class, the instructors conducted the administration of the pretest and provided lectures on background information and terminology, the basics of search strategy development (i.e.,

concept extraction and Boolean logic), and a demonstration of MEDLINE on Compact Cambridge's CD-ROM. The instructors developed five search problems on various topics, which they introduced to the students as the first assignment. Students were required to develop a keyword search strategy on one of the topics; they later executed it on their own time on the Compact Cambridge CD-ROM system located in the library's reference area. All health sciences librarians were aware of the assignments and assisted students at the reference desk when necessary.

For both the instructors and the students, participation in the minimodule was a positive experience.

In the second class, students discussed their success and problems with the CD-ROM assignment. The instructors introduced BRS Colleague via a videotape [11] and an online demonstration. Students developed their own search strategies with BRS Colleague protocols, using five new search problems devised by the instructors, and executed them in the microcomputer laboratory. Two students worked together on each personal computer during all online sessions; the instructors were available to provide assistance as needed. Handouts on MeSH were distributed at the end of the second session. The instructors requested that the students read this material before the third class.

In the third session, the instructors reviewed the concept of subject headings. Keyword searching and descriptor searching were explained in detail, and online examples were used to illustrate the differences in retrieval. The students developed strategies for new search problem assignments, using the MeSH terms and subheadings, and executed them online.

Between the third and the fourth classes, the students were to devise a tentative search strategy on a topic of personal interest to them. The instructors also distributed twenty search statements to students who did not choose their own topic.

In the fourth session, the instructors reviewed the information from the first three sessions, and the class discussed the value of online searching in medical practice or research. Following completion of the posttest and evaluations, students developed final search strategies and executed them in the microcomputer laboratory.

The instructors conducted all sessions in an informal manner, similar to previous end-user classes offered to OSU health professionals. This relaxed atmosphere encouraged lively discussions of in-class exercises. Students succeeded in executing search strategies online and finding journal articles appropriate to the search problems provided by the instructors. For both the instructors and the students, participation in the minimodule was a positive experience.

EVALUATION OF STUDENT PERFORMANCE

The students' understanding of database searching concepts and their skills in executing a search were evaluated by a pretest administered at the beginning of the first minimodule session, searching exercises done during the four sessions, and a posttest administered prior to the final, hands-on exercise of the last session. All ten students completed the pretest. One student did not attend the last minimodule session and did not complete the posttest; therefore, his pretest scores have been removed from the evaluation.

The pretest (Appendix 1) covered the following information: five questions measuring basic knowledge of vendors, databases, and advantages/disadvantages of computerized searching (hereafter referred to as the "online environment"); three questions measuring ability to extract important concepts in a statement of a medical problem to be searched online (referred to as "search concept extraction"); five questions measuring knowledge of "connector" words (referred to as "Boolean/proximity operators"); and three subjective questions asking for the students' level of computer skills (if any) prior to the first minimodule session and the reason they chose to take the course on database searching.

The posttest (Appendix 2) was similar in construction. The first five online environment questions repeated those on the pretest and were intended to measure the students' improvement in understanding the terminology of online searching. As on the pretest, questions six through thirteen measured the students' ability to extract search concepts and understanding of Boolean/proximity operators; however, since the pretest questions were used as in-class examples after the test was administered, the instructors devised different search statements for the posttest to eliminate the possibility of the students' rote memory accounting for their improvement. Questions fourteen through sixteen were again subjective questions, asking the students about strengths and weaknesses of the minimodule and querying whether they intended to use database searching in their medical practices.

On both tests, questions one and two asked students to express their perceptions of the advantages and disadvantages of database searching. Results have not been evaluated statistically; however, the answers are of interest. On the pretest, in addition to advan-

Table 1
Student performance on questions 3–5: basic knowledge of "online environment"

Student No.	Question 3 "Vendor"		Question 4 "What is BRS"		Question 5 "MEDLINE"		Total	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1*	1	0**	1	0	1	1	3
2	0	0	0	1	1	1	1	2
3	1	1	0	1	1	1	2	3
4	0	1	0	1	0	1	0	3
5	1	1	0	1	1	1	2	3
6	0	1	1	0	0	0	1	1
7	1	1	0	1	1	1	2	3
8	1	1	0	1	1	1	2	3
9	0	1	0	0	1	1	1	2
Total	5	8	1	7	6	8	12	23

Pretest average score: 1.33 Posttest average score: 2.55

*1 = Correct answer.
**0 = Incorrect answer.

tages and disadvantages usually perceived by librarians (e.g., combining concepts, costs), the students listed such advantages as "don't have to use [a manual] index" and "an example of modern technology." Listed disadvantages included "possibility of system not working or no access to computer," and "intimidating and confusing to the uninitiated."

The students listed such advantages as "don't have to use [a manual] index" and "an example of modern technology."

On the posttest, students' answers to questions one and two conformed more closely to the instructors' comments on advantages and disadvantages of database searching shared during class time. However, some students also mentioned that, "if not near a library, full-text articles [available on BRS Colleague] can help." One student listed "must know the tricks, such as Boolean logic" as a disadvantage.

The results of questions three through five, measuring students' basic knowledge of the online environment, appear in Table 1. All but student six showed improvement between the pre- and posttest. Four students out of nine scored two out of three correct on the pretest; however, six of nine made perfect scores on the posttest for these questions, and the remaining two students scored two of three correct.

Questions six through eight, measuring students' ability to extract search concepts from the statement of a medical problem, showed the strongest overall

Table 2
Student performance on questions 6–8: search concept extraction

Student No.	No. correct—pretest	No. correct—posttest
1	1	3
2	2	3
3	1	3
4	1	3
5	0	3
6	0	3
7	3	3
8	0	3
9	0	3
Total	8	27

Pretest average score: 0.88 Posttest average score: 3.00

improvement between the pre- and posttest (Table 2). As a general rule, on the pretest the students had shown the ability to discern the important concepts in the search statements, but did not as yet realize the need for a very specific statement of concepts when searching a computer database. For instance, on pretest question six (Appendix 1), several students used the general concept "Weight Problems" instead of the more specific "Low Birth Weight" and thought that the term "Pediatrics" should be searched. On the posttest, however, all students stated very specific concepts in their answers to questions six through eight.

The scores on questions nine through thirteen, measuring the students' knowledge of Boolean/proximity operators, showed an improvement from an average of 2.33 out of 5.0 on the pretest to 4.77 out of 5.0 on the posttest (Table 3). On the pretest, "NOT" was the most obvious concept for nonsearchers to deduce on their own: eight of nine students answered the question correctly on the pretest. "SAME" and "WITH," the BRS proximity operators, were the most difficult concepts for the students. The Boolean operator "AND" was slightly easier for the noninitiated students to deduce than "OR." On the posttest, however, eight of nine students answered questions about "OR" and "WITH" correctly, and also students answered the questions about the other operators correctly.

Overall, on the statistically measurable questions three through thirteen, six out of nine students got perfect scores on the posttest, and two out of nine answered 90% correctly. Student six, who answered only 64% of the questions correctly on the posttest, also scored the lowest on the pretest. Most students more than doubled their scores between the pre- and posttest (Table 4).

As for the pretest's subjective questions fourteen through sixteen, eight students indicated they had used a personal computer in the past, and only one

Table 3
Student performance on questions 9–13: Boolean proximity operators

	OR		AND		NOT		SAME		WITH		Total	
Student No.	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1*	1	1	1	1	1	1	1	0**	1	4	5
2	0	1	1	1	1	1	0	1	0	1	2	5
3	0	1	0	1	1	1	0	1	0	1	1	5
4	0	1	1	1	1	1	0	1	1	1	3	5
5	1	1	0	1	1	1	0	1	1	1	3	5
6	0	0	0	1	1	1	0	1	0	0	1	3
7	1	1	1	1	1	1	0	1	0	1	3	5
8	0	1	1	1	0	1	0	1	0	1	1	5
9	1	1	1	1	1	1	0	1	0	1	3	5
Total	4	8	6	9	8	9	1	9	2	8	21	43

Pretest average score: 2.33

Posttest average score: 4.77

*1 = Correct answer.
**0 = Incorrect answer.

(student four) had not. Student one, who did the best on the Boolean/proximity operator questions on the pretest, had searched *Chemical Abstracts*, but eight students had never searched databases (other than using the OSU libraries' computerized catalog, which does not currently have Boolean capabilities).

When asked why they were taking the course, students invariably answered that they wished to learn about a practical application of computers in medicine. Student eight responded:

[I am taking this minimodule] because of a vast vortex in my education. I have avoided all computer skill opportunities thus far. I have made the big move to garner knowledge on this subject at last. I chose this minimodule over the other computer one [a more general module about computers in medicine] because this summer I had my division librarian do all my searches. I may not always have such luxury at my disposal.

Question fourteen on the posttest asked the students for the most useful information obtained from the minimodule. Answers varied considerably. Students listed such advantages as learning about the number of available databases, using both MeSH terms and keywords when searching, becoming more confident in obtaining information, and improving the ease and speed of searching. Student two said, "Hands-on experience in BRS Colleague was very helpful, as I plan on doing searches at home. At home, there are no friendly librarians to help."

Table 4
Overall student performance: questions 3–13

Student No.	No. correct—pretest		No. correct—posttest		Change	
1	6	(54.5%)	11	(100.0%)	+5	(+45.5%)
2	5	(45.5%)	10	(90.9%)	+5	(+45.5%)
3	4	(36.4%)	11	(100.0%)	+7	(+76.4%)
4	4	(36.4%)	11	(100.0%)	+7	(+76.4%)
5	5	(45.5%)	11	(100.0%)	+6	(+54.5%)
6	2	(18.2%)	7	(63.6%)	+5	(+45.5%)
7	8	(72.7%)	11	(100.0%)	+3	(+27.3%)
8	3	(27.3%)	11	(100.0%)	+8	(+72.7%)
9	4	(36.4%)	10	(90.9%)	+6	(+54.5%)
Average	4.55	(41.4%)	10.3	(93.6%)	+5.66	(+52.2%)

When asked why they were taking the course, students invariably answered that they wished to learn about a practical application of computers in medicine.

The answers to posttest question fifteen, which invited the students to evaluate the minimodule, will help improve the course in the future. Some students suggested omitting the CD-ROM exercises, including more time and information on MeSH terms, providing help on how to use the information obtained during a database search (students who made this suggestion indicated a need for help on how to apply the information to patient care, as well as for the entire process of doing research and writing a paper), offering information on networking, spending less time on learning Boolean logic, and providing handouts with annotated samples of search strategies. The students also suggested using a better screen for projection of the online demonstrations (a chronic problem) and returning students' search strategy exercises after their use in assessing students' in-class improvement.

Posttest question sixteen, which asked the students if they intended to search electronic databases in the future, received unanimously affirmative responses. Student three commented that "since I have the ability to perform a search, I see no reason why I would feel uncomfortable doing a search. I would be the person who knows exactly what I'm looking for, and it would save me time, most likely, to do it myself." Student eight commented, "[I will search databases] because I enjoy the hunt. Actually, I think it is a great way to learn about a subject or answer a question without very much effort." Student two made the statement, "I would recommend this for all medical students."

The instructors recognize the limitations of this study due to the small number of participants. However, the differences in performance on the pre- and posttest may be of interest to professionals involved in end-user search training and can be duplicated in other settings.

CONCLUSION

Evaluation of the students' success in online searching plus the results of the pretest and posttest of this minimodule demonstrate that medical students perceive the advantages to online searching and can learn to search databases effectively. Despite the success of this program, issues remain that are of concern for effective information management education for future health professionals.

The minimodule was a "one-shot" effort. At this point, no systematic reinforcement and advancement of these skills exists in the medical school curriculum. Students may come to the library to search on the free CD-ROM service, but it is not required. In addition, only a limited number of medical students had the opportunity to take the course, although all would benefit from the minimodule.

Database searching is only one aspect of information literacy. Other valuable skills may include applying information obtained during a search to patient case and research, managing personal bibliographic files, and expanding current awareness tactics. These topics were excluded from the minimodule due to time constraints.

Based upon this first experience, the instructors intend to offer and evaluate this course in future quarters. Continued cooperation with the College of Medicine may help alleviate some of the concerns mentioned above. Regardless of where such training opportunities may be offered, librarians and medical faculty should work together to develop a curriculum that includes information management. If they do not, future physicians may miss critical opportunities in learning how to keep abreast of new techniques and discoveries in modern medicine.

REFERENCES

1. Steering Committee on the Evaluation of Medical Information Sciences in Medical Education. Evaluation of medical information science in medical education: an agenda for action. J Med Educ 1986 Jun;61(6):493–500.
2. Ibid., 494.
3. Ibid., 493.
4. Sollenberger J, Smith BT. Teaching computer searching to health care professionals: why does it take so long? Med Ref Serv Q 1987 Winter;6(4):45–51.
5. Poisson EH. End-user searching in medicine. Bull Med Libr Assoc 1986 Oct;74(4):293–9.
6. Starr SS, Renford BL. Evaluation of a program to teach health professionals to search MEDLINE. Bull Med Libr Assoc 1987 Jul;75(3):193–201.
7. Marshall JG. Characteristics of early adopters of end-user online searching in the health professions. Bull Med Libr Assoc 1989 Jan;77(1):48–55.
8. McKibbon KA, et al. Teaching clinicians to search MEDLINE: description and evaluation of a short course. Proc Ann Conf Res Med Educ 1986;25:231–6.
9. Mueller MH, Foreman G. Library instruction for medical students during a curriculum elective. Bull Med Libr Assoc 1987 Jul;75(3):253–6.
10. National Library of Medicine. The basics of searching MEDLINE: a guide for the health professional. Bethesda, MD: National Library of Medicine, 1984.
11. BRS Information Technologies. BRS colleague: introduction to searching. Latham, NY: BRS Information Technologies, 1987.

Received July 1988; accepted November 1988

APPENDIX 1

Introduction to Medical Database Searching

Pretest

Name:_____Date:_____

1. State in one or two sentences an advantage of online database searching.

2. State in one or two sentences a disadvantage of online database searching.

3. What is a database vendor? (Circle the correct letter.)
   a. A database vendor creates databases.
   b. A database vendor creates databases, processes them into a format suitable for searching, and markets them to subscribers.
   c. A database vendor obtains databases from producers, processes them into a format suitable for searching, and markets them to subscribers.
   d. A database vendor markets databases as they are supplied by producers.

4. What is BRS? (Circle the correct letter.)
   a. A bibliographic database
   b. A database vendor
   c. A full-text database
   d. A nonbibliographic database

5. (Complete the sentence by circling the correct letter.)
   The MEDLINE database:
   a. contains references to articles in over 3200 health sciences journals.
   b. contains references to articles in all English language health sciences journals.
   c. contains references to articles only in nonEnglish language journals.
   d. contains references to articles in over 50,000 health sciences journals.

The next three questions test your ability to pick out the important concepts in a statement of a medical problem. Fill in the blanks with words or phrases you would use to find information on these subjects in a computer database.

Sample: I need articles on the ability of children with cancer to cope with their illness.
Key Concepts: Children
Cancer
Coping Skills

6. What social and/or economic conditions might lead to infants being born with low birth weight?
   Key Concepts: _____
   _____
   _____
   _____

7. I need articles on head or spinal cord injuries caused by gunshot, stabbing, or car accidents. I am not interested in case reports.
   Key Concepts: _____
   _____
   _____
   _____
   _____
   _____

8. What is the relationship of vitamin A or vitamin B deficiency to heart or liver diseases?
   Key Concepts: _____
   _____
   _____
   _____

The next five questions test your knowledge of "connectors" used in database searching. Fill in the blanks with one of the five connector words below:

OR AND NOT SAME WITH

9. You are searching for information on artificial sweeteners, and wish to retrieve articles about aspartame (NutraSweet) and/or saccharin.
   Which one of the five connector words would you use when typing your request into the computer?
   ASPARTAME _____ NUTRASWEET _____ SACCHARIN

10. You are interested in retrieving articles about stress in medical students. Both the word "stress" and the phrase "medical students" must be in the same sentence.
    Which one of the five connector words would you use?
    STRESS _____ MEDICAL STUDENTS

11. You are searching for information on nutritional analysis of food, but you don't want articles analyzing animal feed.
    Which one of the five connector words would you use?
    NUTRITIONAL ANALYSIS _____ ANIMAL FEED

12. You are searching for journal articles about educating diabetes patients in self-care techniques. All these aspects must be talked about in the articles, or you are not interested in reading them.
Which one of the five connector words would you use?
PATIENT EDUCATION _____ DIABETES _____ SELF CARE

13. You are searching the abstracts (short summary paragraphs) of journal articles for information about using the drug lithium to combat depression. You want both words to be in the same paragraph.
Which one of the five connector words would you use?
LITHIUM _____ DEPRESSION

14. Have you ever used a personal computer? _____Yes _____No
If yes, please explain (i.e. for word processing; for playing computer games).

15. Have you ever searched a database (excluding the OSU Libraries' computerized catalog, LCS)? _____Yes _____No
If yes, please state which database(s).

16. Why are you taking this minimodule?

APPENDIX 2

Introduction to Medical Database Searching

PostTest

Name:_____Date:_____

(Questions 1 through 5 duplicate those on the pretest.)

The next three questions test your ability to pick out the important concepts in a statement of a medical problem. Fill in the blanks with words or phrases you would use to find information on these subjects in a computer database.

Sample: I need articles on the ability of children with cancer to cope with their illness.
Key Concepts: Children
Cancer
Coping Skills

6. What effects does stress have on medical students and residents?
Key Concepts: _____
_____
_____

7. What kinds of physical, social, and psychological supports are needed by the families of critically ill or dying patients?
Key Concepts: _____
_____
_____
_____
_____
_____

8. I need to know about behavioral approaches to the management of pain in children.
Key Concepts: _____
_____
_____
_____

The next five questions test your knowledge of "connectors" used in database searching. Fill in the blanks with one of the five connector words below:
OR AND NOT SAME WITH

9. You are searching for information on the relationship of the quality of physician-patient communication to the likelihood of a malpractice suit being initiated.
Which one of the five connector words would you use when typing your request into the computer?
PHYSICIAN-PATIENT RELATIONS _____ MALPRACTICE

10. You would like to retrieve articles on indigent patients' right to medical treatment. Both concepts must be mentioned in the same paragraph.
Which one of the five connector words would you use?
MEDICAL INDIGENCE _____ RIGHT TO TREATMENT

11. You need information on the diagnosis of three hearing disorders: Otitis Media, Otosclerosis, Cholesteatoma.
Which one of the five connector words would you use?
OTITIS MEDIA _____ OTOSCLEROSIS _____ CHOLESTEATOMA

12. You need just a few good articles on education for the prevention of AIDS. Both concepts should be in the same sentence.
Which one of the five connector words would you use?
EDUCATION _____ ACQUIRED IMMUNODEFICIENCY SYNDROME

13. You are looking for information on all types of marital therapy except group therapy.
Which one of the five connector words would you use?
MARITAL THERAPY _____ GROUP THERAPY

14. Please name something you learned in this minimodule that is especially useful and/or of interest to you.

15. Please tell us how you think we can improve this minimodule for future classes.

16. Do you think you will search medical databases yourself when practicing medicine? _____Yes _____No
Why or why not?

FROM THE *BULLETIN*—25 YEARS AGO

The medical library and the medical student

By E. Croft Long, M.B., B.S., Ph.D., Associate Professor of Physiology, and Polly G. Miller, Assistant Librarian, Duke Medical Center, Durham, North Carolina

It is library organization and accessibility of material that raise a collection of books to the level of an important instructional and scientific tool. Medical education, whether we care to admit it or not, is devoted largely to the transfer of information from the books in the library to the memories of the students. It becomes important for us to consider how this translocation may be accomplished most expeditiously and to what extent the medical library can serve additional purposes in its relations with medical students.

. . .

The status of medical libraries within their parent institutions is unique; they are in a splendid position to accomplish the aims indicated. The library knows no departmental affiliations or prejudices. It is "supradepartmental"; therefore, immune to parochialism. All members of a medical institution are basically perpetual students, and the search for information raises students, faculty, and research workers to the same level. This idea is symbolized by a single set of library rules, applicable without exception to all users.

Bull Med Libr Assoc 1964 Jul;52(3):568-9